

## Claims

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1. Analysis system for the analytical investigation of a sample, in particular of a body fluid, of human or animals, comprising

10 test elements which, for performing an analysis, are brought into contact with a sample to be investigated, thereafter a measurable change characteristic for the analysis occurring in a measuring zone of the test element, and

15 an evaluation apparatus with a test element support for positioning the test element in a measuring position, and a measurement and evaluation electronic device for measuring the characteristic change and for determining based on the result of the measurement a 20 result of the analysis,

wherein

the measurement and evaluation electronic device comprises a temperature correction unit for taking into account in the determination of the result of the 25 analysis the temperature prevailing in the measurement zone at the time of measurement, based on a temperature measurement performed by a temperature sensor located in a position remote from the measurement zone, and

the temperature correction unit includes a temperature history imaging device for the currentless tracing of the temperature history before the moment of measuring, without consumption of electric energy before 5 the time of measurement.

2. Analysis system according to claim 1, wherein  
the temperature history imaging device includes a thermal  
mass suspended thermally insulated from the structure of  
10 the apparatus and a plurality of temperature sensors  
located at different positions, at least one of the  
temperature sensors being a temperature history control  
sensor located in the interior of the thermal mass.

15 3. Analysis system according to claim 2, wherein  
a second temperature sensor is located, as reference  
sensor of the temperature history imaging device, in the  
vicinity of the thermal mass, but without contact to it.

20 4. Analysis system according to claim 2, wherein  
the thermal conductivity of the thermal mass is so low  
that changes of the ambient temperature lead to  
measurable temperature gradients in the interior of the  
thermal mass such that the gradients form an image of the  
25 change of the ambient temperature for a period of at  
least five minutes, and that at least two temperature  
sensors of the temperature history imaging device are  
located in contact with the thermal mass.

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5. Analysis system according to claim 4, wherein  
one of the temperature sensors is located at the surface  
of the thermal mass.

5         6. Analysis system according to claim 4, wherein  
the location of the temperature history control sensor in  
the thermal mass is such that the distance between the  
sensor and all points of the boundary surface of the  
thermal mass which are not thermally insulated from the  
10 ambient air is essentially the same.

7. Analysis system according to claim 6, wherein  
the thermal mass is spherical, its surface is not  
thermally insulated from the ambient air, and the  
15 temperature history control sensor is located in the  
center of the thermal mass.

8. Analysis system according to claim 6, wherein  
the thermal mass is disk-shaped, the flat sides of the  
20 disk are thermally insulated from the ambient air, and  
the temperature history control sensor is located in the  
center of the disk.

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